



**EUROPEAN CENTRAL BANK**

**ASSESSMENT OF  
EU SECURITIES SETTLEMENT SYSTEMS  
AGAINST THE STANDARDS FOR THEIR USE  
IN ESCB CREDIT OPERATIONS**

**SEPTEMBER 1998**



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## INTRODUCTION

In November 1997 the EMI Council endorsed a report entitled “Standards for the use of EU securities settlement systems in ESCB credit operations”, which laid down the nine Standards for assessing the soundness of the securities settlement systems (SSSs) seeking to qualify for involvement in monetary policy and intraday credit operations. As a follow-up to that report, the ESCB has assessed twenty-nine EU SSSs.

The analysis of the present report was based on information provided by SSSs and refers to the situation as of July 1998. The ECB and the EU NCBs are aware that most SSSs are implementing changes; therefore updated information on the conditions for the use of SSSs will be released as it becomes available.

The present report is not intended to provide detailed factual information on the operation of specific systems, much of which was provided to the ESCB on a confidential basis. Instead, it provides further clarification of the way in which each Standard has been analysed and applied to the systems as a whole.

Not all the systems currently satisfy all the Standards fully. The previous report issued by the EMI made clear that the Standards would be interpreted pragmatically. A key objective of the Standards is to allow a careful analysis of the risks to which the ESCB is exposed in using each system for the settlement of its credit operations. Work is under way in certain systems to develop further the service provided, in accordance with the Standards. While some systems do not comply fully with Standards 2 and 7, they will still be used on the basis of free delivery and (where the system does not allow for the final intraday delivery of securities) pre-deposited securities. Based on the current assessment, the ESCB does not believe that there is reason to abstain from using any of the twenty-nine systems. Therefore all of them are eligible for use from the start of Stage Three (although the basis of use may differ). The eligibility of each system may be periodically reviewed in light of the operation of and developments in the system and market needs.

The results of the assessment of the twenty-nine SSSs and the conditions for their use, as at July 1998, are indicated in Table 1 and they can be summarised as follows:

- only two SSSs (France-RGV and Sweden-VPC) currently offer intraday DVP facilities on a real-time basis with payment in central bank money and in accordance with TARGET operating times;
- nine other SSSs (Belgium-NBB/CIK, Denmark-VP, Germany-DBC, Greece-BOGS, the Netherlands-Necigef, Portugal-Siteme/Interbolsa and Finland-RM) offer intraday facilities with payment in central bank money on a real-time basis or with several batches, but do not currently fulfil TARGET operating times. They intend to fulfil TARGET operating times by 4 January 1999;

- one system (Austria-OKB) provides intraday DVP settlement, but not in central bank money; however, it intends to do so as of 4 January 1999;
- two SSSs will be used on a free delivery basis because they do not provide DVP facilities (Italy - CAT/Monte Titoli);
- seven SSSs will be used on a free delivery basis because they do not provide DVP settlement in central bank money (the United Kingdom-CGO/CMO/CREST, Ireland-CBISSO/NTMA, Euroclear and Cedel);
- nine SSSs do not allow the delivery of securities intraday with finality: securities held in these systems can be used in intraday credit only where they have been delivered in advance to the ESCB (i.e. pre-deposited) (Belgium-Euroclear, Finland-OM, Luxembourg-Cedel, Spain-CADE (CADE plans to implement real-time free deliveries as of 15 January 1999 and real-time DVP as of 15 March 1999) SCLV/Espaclear/SCLBarcelona/SCLBilbao/SCLValencia);
- one system (Italy-LDT) cannot be used for the intraday settlement of ESCB operations.

The present report assesses only the internal procedures of SSSs. Two issues are currently under consideration by the ECB and the EU NCBs:

- (i) links between SSSs; and
- (ii) issues concerning the use of common depositories.

Currently the ESCB is conducting the assessment of the links between those SSSs that are eligible for ESCB credit operations. Owing to the shortage of time, only direct links will be assessed as a first stage. The systems and their links will then continue to be assessed as part of an ongoing process to ensure that the list of eligible systems remains up-to-date.

As far as the latter issue is concerned it is acknowledged that further analysis concerning the adequacy of the safeguards against custody risk is needed.

**Table 1: OPERATIONAL CONDITIONS FOR THE USE OF ELIGIBLE SSSs***(As of July 1998)*

<b>Country</b>	<b>SSS to assess</b>	<b>ELIGIBILITY</b>
Belgium	NBB Clearing system CIK  Euroclear	Yes but only on a free delivery basis after 16.15. Yes provided that the system conforms to TARGET opening times. Yes but on a free delivery basis and only with pre-deposited securities until the real-time system is implemented.
Denmark	VP	Yes but only on a free delivery basis after 15.00.
Germany	DBC	Yes on a free delivery basis after 14.45 but intends to offer real-time facilities with payment in central bank money complying with TARGET operating time at the start of Stage Three.
Greece	BOGS	Yes but with pre-deposited securities after 13.30 until the system complies with TARGET opening times.
Spain	CADE  SCLV Espaclear SCL Barcelona SCL Bilbao SCL Valencia	Yes but only with pre-deposited securities from 07.00 to 16.30 for intraday requirements.  Yes for these five SSSs but only with pre-deposited securities for intraday requirements.
France	Sicovam SA RGV	Yes.
Ireland	CBISSO NTMA	Yes but only on a free delivery basis. Yes but only on a free delivery basis.
Italy	LDT CAT Monte Titoli	Yes but not for intraday requirements. Yes but only on a free delivery basis. Yes but only on a free delivery basis.
Luxembourg	Cedel	Yes but only on a free delivery basis and with pre-deposited securities until the real-time system is implemented.
Netherlands	Necigef	Yes but on a free delivery basis between 12.00 and 16.00. and with pre-deposited securities after 16.00. From 1.1 1999 Necigef intends to comply with TARGET opening requirements.
Austria	OEKB system	Yes but on a free delivery basis before 13.30 and only with pre-deposited securities after 13.30.
Portugal	Siteme Interbolsa	Yes, provided the systems conform with TARGET opening times.
Finland	APK/OM system APK/RM system	Yes but only with pre-deposited securities. Yes provided that the systems conform with TARGET opening times.
Sweden	VPC system	Yes.
United Kingdom	CGO  CMO  CREST	Yes but on a free delivery basis before 15.50 and with pre-deposited securities after 15.50. Yes but on a free delivery basis and only with pre-deposited securities after 17.45. Yes but on a free delivery basis before 16.00 and with pre-deposited securities after 16.00.

## 1. Legal soundness (Standard 1)

All securities settlement systems (SSSs) and the links between such systems must have a sound legal basis, ensuring that the settlement of payment and securities transfers is final and must provide for adequate protection for the rights of the NCBs and the ECB in respect of securities held in their account in such systems.

In all EU SSSs the nature of the beneficial owners' entitlement to the securities is an ownership or a co-ownership right, i.e. a proprietary right distinct from a simple contractual claim and consequently enforceable not only "inter partes" but also "erga omnes". As such, this right cannot be challenged in the event of insolvency proceedings against the SSS operator. Moreover, bona fide purchasers are protected against any non-owner transferor.

In some countries, this right is strengthened by segregation procedures. The rights, obligations and liabilities of the SSS operators and participants are clearly and adequately defined by law and/or the general terms and conditions of the SSS. In most cases, the SSS includes an insurance covering loss due to negligence or fraud by the operator.

The finality of settlement is ensured by law and/or the general terms and conditions of the SSS and legally protected against the effect of any "zero hour rule" or other insolvency-related provisions. The implementation of the Settlement Finality Directive will improve this situation; however, even before then, the chances of any securities settlements in these countries being unwound because of these insolvency-related provisions were assessed to be very low. Netting procedures are legally enforceable in the countries in which they are used.

It is also noted that, taking into account the fact that some SSSs use the services of common depositories<sup>1</sup> located abroad for the holding of local securities, conflicts of laws might occur which deserve particular attention. In order to meet this legal concern, the relevant SSSs rely on legal opinions obtained from qualified counsels stating that the rights of the SSSs and those of their users are adequately protected under the jurisdiction of the depositories. It should also be pointed out that Article 9.2 (in particular) of the Settlement Finality Directive will contribute to the resolution of such conflicts of laws. Finally, conflicts of laws concerning the finality and the legal enforceability of netting arrangements could arise when a system allows remote access. At present, these conflicts of laws are not solved in all countries; in the near future the proper implementation of the Settlement Finality Directive in all Member States will solve these conflicts of laws.

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<sup>1</sup> The conflicts of laws issue also concerns the use of sub-custodians when setting up links between SSSs. These issues are outside the scope of this report and are being addressed by the ECB and the NCBs within the scope of the work concerning the assessment of links between SSSs.

## **2. Settlement in central bank money (Standard 2)**

SSSs must use central bank money for the delivery versus payment (DVP) settlement of ESCB credit operations.

The aim of this Standard is to protect the ESCB from the risk of a failure of the settlement bank by ensuring that the cash leg of DVP transactions is settled in central bank money at the point at which the securities are delivered. Currently, several SSSs are not able to offer an intraday settlement in central bank money. In these cases and when a central bank receives cash for the settlement of an operation (return of a credit operation or liquidity-absorbing operation) first the cash leg of the operation will need to be settled in central bank money, in order to ensure that risk on settlement banks is avoided, then the central bank will be able to release the collateral that was held in guarantee for this operation or deliver the securities or collateral to the counterparty. For the redemption of collateral and payment of interest, special measures should be provided to avoid holding cash positions outside the books of the relevant central bank.

## **3. No undue custody risk (Standard 3)**

To limit custody risk as much as possible, SSSs must have a unique and direct relationship with the issuer or a direct link with an SSS which has this relationship. Where use is made of a depository, the SSS which has a direct link with the depository of the global or individual certificates shall be regarded as having a direct and unique relationship with the issuer, provided that there are adequate safeguards against custody risk. Links must have reconciliation procedures for balances at least once a day. All EU SSSs should permit direct access appropriately to all other EU SSSs which meet these Standards and other relevant requirements.

As central depositories, all national SSSs have a unique and direct relationship with the issuers of the domestic securities deposited with them. In other words, they are responsible for holding the issuer account, which records the total amount of outstanding securities. The securities of one issue are typically deposited only in one SSS, which acts as the “central point” for this issue; this means that such an issue can be held in another SSS only through a link between this SSS and the initial SSS. This SSS guarantees the safety of the book-entry system by ensuring, through an appropriate. Such a reconciliation process should be carried out preferably on a continuous or at least on a daily basis.

Moreover, all SSSs have in place operational procedures which are sufficient to satisfy local segregation requirements. In some cases, they have accounting procedures that allow them to segregate own assets of their participants and the assets of the participants’ clients. In some SSSs, it is also possible to segregate the different clients of each participant. In all cases, the SSSs have reconciliation procedures in order to ensure that there is no discrepancy between the securities issued and the securities held by their participants.

Two specific issues remain under consideration:

- (i) when securities are used through a link between SSSs; and
- (ii) when SSSs make use of “common depositories”.

As regards Euro-market and international issues where the depository function is delegated to a “common or specialised depository” in charge of the safekeeping of the global or individual certificates, these depositories are normally chosen from a list of depositories selected by the SSSs. However, they are considered to have a direct relationship with the issuer, provided that adequate safeguard measures against custody risk have been taken. In addition, the depositories used by the SSSs must comply with prudential regulations and be structured in such a way as to avoid any possible conflict of interest arising from other activities (e.g. custodial activities for the same issue).

Issues concerning the use of common or specialised depositories are still under consideration. For the start of Stage Three, the ECB and the EU NCBs consider that possible additional risks created by the use of common depositories are sufficiently limited to enable the incorporation into the list of eligible assets of the issues held by SSSs in common depositories. For the longer term, further analysis concerning the adequacy of safeguards against custody risk needs to be undertaken in co-operation with concerned SSSs.

#### **4. Regulation and/or control by competent authorities (Standard 4)**

An SSS or a linkage between SSSs, that is not subject to regulation and/or control by the competent authorities, must not be used by NCBs.

Although all SSSs are, in principle, subject to regulation, they are not always subject to the specific control of their depository and/or clearing functions by an independent and specialised body, such as a financial authority or the central bank in its capacity as overseer of payment and securities settlement systems.

An overview of the regulatory framework for securities settlement systems (including the oversight function by NCBs) is provided in Annex 1, which was prepared in co-operation with banking supervision experts. The main results can be summarised as follows. First, most SSSs managed by NCBs are subject to the internal control procedure of the relevant NCB. Second, some SSSs are registered as credit institutions and subject in this respect to banking supervision. In other countries, SSSs are controlled by financial market authorities and/or the relevant NCB, local or regional public authorities, by the Ministry of Finance and/or by external private auditors. These procedures can only be considered appropriate if they clearly relate to the depository and clearing functions. In some countries, new regulations are to be, or have just been introduced in order to give the NCB special oversight responsibilities focusing on the systemic implications of the activities of the SSS.

Against this background, the Governing Council of the ECB agreed on the following conclusions.

As far as SSSs managed by central banks are concerned, it was noted that, currently, whilst some SSSs are subject to both internal and external audit, others are subject to internal audit only. Whereas, as a matter of principle, it is advisable that all SSSs are subject to internal and external audit, the lack of external audit should not be regarded as a reason for considering them not eligible for ESCB operations. It was also considered whether NCBs which operate SSSs should be required to set up special functions tasked with supervising the management of SSSs and concluded that effective audit functions would suffice.

Second, those SSSs which are registered as credit institutions and are therefore subject to general banking supervision and those subject to regulation by the government meet the Standard since regulation and/or control cover adequately the depository and clearing functions.

Finally, in principle there could be value in assessing the need for possible harmonisation of the control mechanisms as well as in defining the best practices for control mechanisms in this area, but this should be considered as a long-term issue to be addressed also in light of the experience gained by the ESCB.

## **5. Transparency of risks and conditions for participation in a system (Standard 5)**

SSS operators must provide the NCBs with an insight into the potential risks of the settlement of securities (e.g. they must provide timely, orderly and reliable information about the potential risks resulting from participation in the system). Access and exit criteria for participation in the SSS must be objective and public. In this respect, the SSSs' full response to the G10-IOSCO disclosure framework for SSSs must be readily available.

NCBs are provided with information about potential risks resulting from their participation in an SSS through different channels, depending on their position in relation to the SSS operator. They have clear insight into potential risks when they are the operator of the system or they are a major shareholder of the SSS operator and/or have representatives on its board of directors. In some countries the need to provide information is specifically laid down in the law or other legal provisions granting the NCB supervisory power over the SSS operator or oversight responsibilities. In other countries the NCB is given information on the basis of its close informal relationship with the SSS.

Access and exit criteria are public and objective. Most SSSs have no restrictions regarding the domicile or residence of participants. The participants are also often requested to demonstrate capital adequacy and technological capabilities. Termination of membership is generally triggered by insolvency situations or by non-observance of the SSS regulations.

At present only a few SSSs have not yet completed the Disclosure Framework questionnaire.

## **6. Risk management procedures (Standard 6)**

SSSs must adopt risk management measures as appropriate to the individual system, in order to cope with the effects of a default of participants. SSSs must be structured and operate in such a way as to avoid, or if not possible, to minimise any conflict of interest possibly arising from their other operations.

Thanks to the use of DVP procedures by most EU SSSs, participants are not exposed to principal risk. They can, however, be exposed to liquidity risk if there is a postponement or an unwinding of a failed participant's transactions. This is especially the case in most model 2 and 3 systems (according to the BIS definition), which are based on netting procedures where unwinding is possible. In order to minimise settlement failure and to limit the possibility of such unwinding with its systemic implications, EU SSSs use several risk management procedures depending on which BIS DVP model they process. Some SSSs using netting procedures provide a settlement guarantee. Risks stemming from the provision of the guarantee for the system provider are covered by participants' collateral and/or loss-sharing agreements.

In all SSSs securities overdrafts are prohibited. As a result, to limit the likelihood of settlement failure occurring due to a securities shortage, many SSSs offer securities lending facilities. In providing securities lending facilities, some SSS operators act as a principal, others do not. In the former case, these facilities are covered by adequate collateralisation measures. Some of them impose buy-in orders or rely on a securities lending market or market-maker.

These facilities are more efficient when they are supplemented by penalties to be paid to the operator or/and to the counterparty in the event of settlement failure.

Regarding payment failure, participants are offered assured payments in some SSSs by a group of private settlement banks. In those countries, this guarantee mechanism is considered adequate from a risk management perspective. In one country, payment failures impacting on the collateral transfer would not arise for ESCB credit operations, as the cash leg is settled separately through the RTGS system, with collateral transfer carried out on a free-of-payment basis. In some cases, the SSS operator acting as principal or the central bank itself offers credit facilities to the participants. However, these credit facilities are generally collateralised and/or include lending limits so that they can be considered as appropriate risk management measures, since they do not create other risks stemming from the redemption default of participants.

Therefore, the core business of most EU SSS operators is restricted to depository and clearing/settlement functions in order to minimise exposure to risks. However, other activities are authorised provided that the operator is organised in such a way (with so-called "Chinese walls" or internal non-disclosure policies) as to avoid any conflicts of interest.

The results of the assessment are summarised in Annex 2.

## **7. Intraday finality of settlement (Standard 7)**

SSSs must provide facilities to settle certain ESCB operations (those involving intraday and overnight credit) with intraday finality (i.e. settlement that cannot be reversed or unwound). SSSs must not expose NCBs to other sources of settlement risk when they are settling operations with counterparties in an SSS and/or via linked arrangements. SSSs used for the settlement of central bank transactions shall have facilities in place by 2002 to allow the option of intraday DVP settlement in central bank money. This may take the form of real-time gross settlement, or a series of batch processes with intraday finality.

In principle, an SSS is considered to offer intraday facilities provided that the settlement timing allows for intraday re-transfer of securities in the same system with finality during TARGET opening hours (i.e. transactions on the same securities can be traded and settled with intraday finality several times on the same day). In practice, although most SSSs plan to set up real-time gross settlement (RTGS) systems by 2002, few of them currently offer this intraday facility through real-time settlement; other SSSs offer the intraday facility through several settlement batches or will provide it before 1 January 1999. Since some ESCB credit operations need to be settled within a very short period of time, the best solution for intraday DVP settlement is the use of RTGS systems (or a series of batch settlements). However, for the SSSs which have not yet implemented real-time facilities, ESCB credit operations will be settled by other mechanisms such as pre-deposited securities (see Annex 3).

Accordingly, when intraday settlement is not possible, ESCB intraday operations will be settled by means of pre-deposited securities (with the exception of one system in which pre-deposited procedures cannot be used since it does not offer custody functions).

## **8. Operating hours and days (Standard 8)**

Operating hours and opening days of SSSs must be in compliance with NCBs' requirements for the TARGET system and for the cross-border use of eligible securities included in the tier one and two lists.

All SSSs aim to fulfil the TARGET opening requirements. This means that from the start of Stage Three they will be able to provide final settlement (on a DVP or free delivery basis) of instructions with the same value date entered by the ESCB counterparties between 07.00 and 18.00 (i.e. the latest time at which a counterparty can enter an order for intraday delivery is at 18.00) and, in principle, settled in the following minutes (thirty minutes maximum).

As far as operating hours are concerned, the situation is summarised in Annex 4. All SSSs will be able to deliver securities while the TARGET system is in operation. Some of them will need to make

recourse to pre-deposited securities for the same day settlement of transactions carried out into the system in the afternoon.

As far as operating days are concerned, most SSSs have confirmed to the ECB that they will comply with TARGET opening times as from 1 January 1999. This means that they will be open every day, with the exception of Saturdays, Sundays, Christmas and New Year's Day. However, even if an SSS does not open on all these days, it would not be expected to cause difficulties for counterparties as either (a) SSSs will in any event be open on the same days as their domestic RTGS system, or (b) it will be possible to pre-deposit securities with the central bank.

The ESCB would welcome full compliance with Standard 8 for the following reasons:

- the use of pre-deposited securities could, in certain cases, impose opportunity costs for counterparties;
- if pre-deposited collateral is not able to cover emerging liquidity problems at the end of the day, refinancing operations can be conducted only against limited collateral; and
- the late operation of SSSs is crucial for end-of-day procedures. It is important that the ESCB is able to mobilise collateral promptly, especially when collateralised lending from the central bank is required at the end of the day. If the ESCB is to rely only on pre-deposited collateral, this could introduce some constraints on collateralised credit that can be granted at the end of the day.

## **9. Operational reliability of technical systems and availability of adequate backup facilities (Standard 9)**

All SSSs must ensure the operational reliability of technical systems and the availability of backup facilities capable of completing daily processing requirements.

The assessment of SSSs against Standard 9 was highly complex since it required the examination of many pieces of very detailed documentation. Therefore a light approach was followed, according to which in some cases the existence of audit reports or other similar documentation was considered as sufficient in order to fulfil the Standard.

Due to the high degree of interdependence between SSSs and TARGET, the same recovery standards as for TARGET should apply. These state that "normal failures" (short service interruptions which can be solved by action in the primary site) should not last longer than one hour and that a "disaster" (a serious service interruption which is solved by relocation of the system to a second site) should not last longer than four hours. Events which require a switchover to the secondary site should be very rare.

**ANNEX 1: REGULATORY FRAMEWORK FOR SECURITIES SETTLEMENT SYSTEMS**

<b>COUNTRY</b>	<b>NAME OF THE SYSTEM AND LEGAL STATUS</b>	<b>AUTHORITY IN CHARGE OF REGULATION AND/OR CONTROL</b>	<b>FEATURES OF THE REGULATORY FRAMEWORK</b>
<b>Belgium</b>	CIK (Caisse Interprofessionnelle de Dépôt et de Virements de Titres) Public limited company	Not subject to an external supervisory authority but a Government Commissioner attends the meetings of the Board. CIK will be subject to the oversight of the central bank from January 1999 onward.	The future oversight of the NBB will focus especially on the systemic implications of the SSS's activities (i.e. on its clearing and settlement activities).
	NBB CLEARING SYSTEM Department of the National Bank of Belgium	National Bank of Belgium (NBB)	Subject to the internal control procedures of the National Bank of Belgium and will be subject to the same standards as the other CSDs in order to ensure a level playing-field from January 1999 onward. The future oversight of the NBB will focus on the systemic implications of the SSS's activities (i.e. on its clearing and settlement activities).
	EUROCLEAR SYSTEM System owned by Euroclear Clearance System Plc, UK public limited company. The Belgian branch of Morgan Guarantee Trust Company of NY (MGB) acts as operator of the system, under contract with the Belgian Euroclear Clearance System SC (société coopérative).	The Banking and Financial Commission (BFC) supervises MGB as a Belgian branch of a non-EU credit institution. Its responsibility does not extend to ECSsc and ECSplc. MGB is also supervised by the Fed of NY and by the State of NY Banking Dpt. MGB is authorised as a Service Company by the SIB (UK). EUROCLEAR will be subject to the oversight of the NBB from January 1999 onward.	The supervision of the BFC over MGB covers the so-called banking office as well as the activity of the branch as operator of the Euroclear system. The features of the regulatory framework are the same as for the banking office. The future oversight of the NBB will focus especially on the systemic implications of the SSS's activities (i.e. on its clearing and settlement activities).
<b>Denmark</b>	VP (Vaerdipapircentralen) Private non-profit making organisation.	Financial Supervisory Authority	According to the Danish Securities Trading Act and other legislation, VP is subject to the control of the Danish Financial Supervisory Authority, which checks (including by means of on site inspections) that its rules, procedures, control and safeguard arrangements, including electronic data processing, are adequate and in accordance with the legislation.
<b>Germany</b>	DBC –Deutsche Börse Clearing AG Credit institution	Federal Banking Supervisory Office	Regulatory framework applying to credit institutions.

<b>Greece</b>	BOGS (Bank of Greece Securities Settlement System) Bank of Greece Department	Bank of Greece	BOGS is subject to the internal control procedures of the Bank of Greece.
<b>Spain</b>	SCLV (Servicio de Compensación y Liquidación de Valores) Public limited company	Securities and Exchange Commission (CNMV)	Subject to the supervision of the Supervision Department of the CNMV. It records in its books the total amount of outstanding securities exchanged in the Spanish Stock Exchange Markets and has the sole right to manage clearing procedures of securities and money related to Stock Market Transactions. It cannot assume risks vis-à-vis the participants nor carry out any financial intermediation activities. It must have a board of directors with at least five members. Its capital must be fully paid up; its main shareholders are the Spanish Stock Exchange Markets (40%) in the name of its participants; the rest is allocated among commercial banks and savings banks according to their total amount of settlement operations.
	ESPACLEAR (Sistema de Compensación de Activos Financieros S.A.) Public limited company	Securities and Exchange Commission (CNMV)	ESPACLEAR, fully owned by SCLV, is under the supervision of the Supervision Department of CNMV. It records in its books the total amount of outstanding fixed-interest securities exchanged in the “AIAF, Mercado de Renta Fija, SA”.
	CADE (Central de Anotaciones de Deuda Española) Department of the Banco de España.	Joint committee	CADE is subject to the control of a joint Advisory Committee composed of the central bank, the CNMV and the Ministry of Economy. It records in its books the total amount of outstanding public debt securities issued by Spanish public institutions.
	SCL Barcelona Department of the Ruling Stock Exchange Company for Bcelona	Regulated by the Securities Market Law and regional legislation and subject to the supervision of the Autonomous Government of Catalonia.	
	SCLValencia Department of the Ruling Stock Exchange Company for Valencia	Regulated by the Securities Market Law and by regional legislation. It is subject to the supervision of the Valencia Government.	
	SCLBilbao Department of the Ruling Stock Exchange Company for Bilbao	Regulated by the Securities Market Law and by regional legislation and subject to the supervision of the Basque Government.	

<b>France</b>	SICOVAM SA Société Anonyme (private company but the main shareholders are the Banque de France and credit institutions)	Direction du Trésor (Ministère de l'Economie et des Finances), CMF (Conseil des Marchés Financiers) and the Banque de France.	Set up by a 1949 ministerial decree. Statutes and rules are approved by the Ministry of the Economy, Finance and Industry. Subject to the supervision of the Conseil de Marchés Financiers in charge of controlling the compliance with rules of conduct applied to providers of investment services. The CMF will focus on the regulatory framework whereas the Banque de France will check the operational and technical framework.
<b>Ireland</b>	CBISSO (Central Bank of Ireland Securities Settlements Office). The Minister for Finance has given CBISSO the legal authority to act as a CSD. CBISSO is part of the Central Bank of Ireland.	Under the Central Bank Act, 1997, the Bank regulates payment and securities settlement systems. CBISSO is subject to the normal management structure of the Central Bank, including management board and ultimately the non-executive board. In this context, it has been exempted by the Bank from regulation under the above Act.	CBISSO is subject to audit by the Internal Audit Unit of the Central Bank of Ireland, which reports to the Audit Committee of the Board. It is also subject to external audit by the Comptroller and Auditor General.
	NTMA (National Treasury Management Agency) Government Agency established by the Minister for Finance under the National Treasury Management Act, 1990	NTMA is subject to the control and general superintendence of the Minister for Finance.	The NTMA's internal audit function is carried out by a professional audit firm. It is also subject to external audit by the Comptroller and Auditor General.
<b>Italy</b>	Monte Titoli Public limited company	Stock Exchange Commission (CONSOB) in agreement with Banca d'Italia (BI)	According to the Codified law on Financial Intermediation enforced in July 1998, Monte Titoli is subject to the supervision of the central bank and the CONSOB, which jointly issue general regulations on the services that can be performed by CSDs, determine their minimum capital and authorise the undertaking activity. Supervisory powers over CSDs given to the Banca d'Italia and CONSOB includes on-site inspections. Moreover, CSDs are subject to oversight of BI in the framework of the general oversight responsibility of BI on payment systems, see Article 146 of the Codified Banking Law.
	CAT (Conti Accentrati in Titoli) Department of Banca d'Italia	Banca d'Italia (BI)	Regulated by decrees of the Ministry of the Treasury, Budget and Economic Planning and by operational regulations issued by the BI in its capacity as manager of the system. CAT, being operated by a department of the BI, is subject to the internal audit and reporting of the bank.

<b>Italy</b> (continued)	LDT (Liquidazione Dei Titoli) Department of Banca d'Italia	Banca d'Italia (BI)	Regulated in accordance with Article 69 of the "Codified Banking Law on Financial Intermediation" by the BI in agreement with CONSOB. LDT, being operated by a department of the BI, is subject to the internal audit and reporting of the Bank.
<b>Luxembourg</b>	CEDEL Credit institution	Banque centrale du Luxembourg	As a credit institution, subject to the banking supervision of the BCL, which takes into account the specific risks connected with its clearing activities and focuses on systemic risks, liquidity and system control.
<b>The Netherlands</b>	NECIGEF Public limited company; fully owned by the Amsterdam Stock Exchange. Necigef has a special institutional framework and statutes based on the Securities Giro Act.	Ministry of Finance: legal and institutional aspects. The Nederlandsche Bank (DNB) in co-operation with the Securities Board (STE) is responsible for oversight of the SSS.	NECIGEF is appointed as the central securities depository under the Securities Giro Act. Special statutes and control mechanisms are in place to safeguard the integrity of the system. The law also protects the property rights of the clients of the participants in the system (usually banks) against the bankruptcy of the participant. Necigef is supervised by the Securities Board of the Netherlands and the Nederlandsche Bank which have jointly set standards for SSSs.
<b>Austria</b>	OeKB (Oesterreichische Kontrollbank AG) Credit institution	Ministry of Finance	Austria does not have a specific law regulating securities transactions in a comprehensive manner. Instead, the legal foundation is provided by various laws. An ordinance issued by the Federal Minister of Justice designated OeKB as the Central Securities Depository. The Vienna Stock Exchange has appointed OeKB to serve as the central clearing agency for securities transactions effected on the Exchange ("Arrangement"). The Arrangement procedures are set out in the Arrangement regulation of the Vienna Stock Exchange and the business terms of the Austrian Central Securities Depository. OeKB, as a specialised credit institution, is subject to a broad range of relevant provisions of the Austrian Banking Act 1993 (e.g. qualification of managers, duty to publish reports, supervisors' right of inspection). The Federal Ministry of Finance entrusts the OeKB with certain supervisory functions. Furthermore, the newly created Securities Supervisory Authority ("Bundeswertpapieraufsicht"), which is in charge of market supervision, monitors the correctness of trading on the Stock Exchange.
<b>Portugal</b>	INTERBOLSA (Associação para a Prestação de Serviços às Bolsas de Valores) Non-profit private corporation owned by the two Portuguese Exchange Associations	Stock Exchange Commission (Comissão de Mercado de Valores Mobiliários, CMVM)	The setting-up and operation of INTERBOLSA was made possible by a law of 1991. The securities settlement is governed by a specific regulation approved by CMVM. Changes are proposed by the Board of Directors of INTERBOLSA and are to be adopted by CMVM. Participants must be registered at CMVM as financial intermediaries, have a sound internal control system and adequate staff. Membership is revocable by INTERBOLSA.

<b>Portugal</b> (continued)	SITEME Not a distinct legal entity, but rather a system used by the Banco de Portugal to settle its own operations and some of the Treasury or interbank transactions.	Banco de Portugal	SISTEM is not subject to the Supervision Department of the Banco de Portugal but instead to the internal audit procedures of the Banco de Portugal. The internal audit department controls at least yearly the compliance with rules and procedures and proposes changes if need be. Operational characteristics as well as rules of access and exit are regulated by instructions of Banco de Portugal.
<b>Finland</b>	APK (Suomen Arvopaperikeskus Oy) Private limited company 24.4 % of the share capital owned by the Suomen Pankki.	Financial Supervision Authority Suomen Pankki	The APK is subject to authorisation and own capital requirements. It is a self-regulatory organisation. It is subject to the control of the Financial Supervision Authority with on-site inspections. According to the Act on the Suomen Pankki (214/1998), the central bank has a general duty to attend for its part to the reliability and efficiency of the payment and financial system. Suomen Pankki has thus a role in the general oversight and control of the APK.
<b>Sweden</b>	VPC (Värdepapper centralen VPC AB) Private limited company. Shareholders: Government 50%; Federation of Swedish Industry and Stockholm Chamber of Commerce 25%; Swedish banks and securities firms 25%.	Finansinspektionen	Authorised as a clearing organisation under the Securities Exchange and Clearing Operations Act (1992:543). According to the Share Account Act (1989:827). VPC as the CSD is responsible for the shareholders' register for those companies that have decided in their articles of association to issue their shares in dematerialised form. An informal fit and proper examination of the managers is performed and the requirements are qualitative: as adequate capital (equity, financial strength and insurance) and a risk management plan. Supervision is performed by regularly planned meetings and frequent contacts between the authority and the depository. VPC's rules and regulation for participants in the system are scrutinised by the supervisory authority.
<b>The United Kingdom</b>	CREST Public limited company	The Financial Services Authority	CREST is a Recognised Clearing House under the Financial Services Act 1986 and an approved Operator under the Uncertificated Securities Regulations, 1995. It is subject to ongoing supervision by the Financial Services Authority, to ensure that it continues to meet the approval criteria, which include financial requirements, operational requirements, system security and requiring compliance by participants with CREST rules.
	CGO (Central Gilts Office) Department of the Bank of England	Bank of England	CGO is subject to internal and external audit of the Bank of England.
	CMO (Central Money Market Office) Department of the Bank of England	Bank of England	CMO is subject to internal and external audit of the Bank of England.

**ANNEX 2: RISK CONTROL MEASURES IN EU SECURITIES SETTLEMENT SYSTEMS**

<b>SSS (country)</b>	<b>DVP model</b>	<b>Risk control measures</b>
NBB Clearing system (Belgium)	DVP model 1 system, with a multiple batch procedure.	The multiple batch procedure mitigates the liquidity risk. An automatic securities lending service is provided by the NBB acting as principal, but the potential risks are mitigated by a collateral-taking and a loss-sharing provision included in the membership agreement.
CIK (Belgium)	DVP model 1 system, with multiple batches procedures. As from October 1998, settlement will be on a real-time basis.	The multiple batches procedure mitigates the liquidity risk. No securities lending service.
Euroclear (Belgium)	DVP model 1 system (in commercial bank money), based on 3 batches (2 overnight batches and one daylight batch).	An automatic securities lending service is provided by Euroclear-MGT acting as principal, but the potential risks are mitigated by collateralisation procedures. In order to avoid cash failures, Euroclear-MGT grants collateralised credits to its participants with lending caps.
VP (Denmark)	VP operates two DVP models: a model 1 based on real-time settlement and a model 3 based on 4 net settlement batches.	Risk management measures to cope with the effects of a securities or cash shortage consist mainly of the possibility of recycling and interplay between the two models. No securities lending service
DBC (Germany)	DBC operates two DVP models: model 1 based on real-time settlement and model 2.	DBC provides different services which guarantee that settlement transactions can be realised (i.e. securities-lending program as an agent; for the cash leg: bank guarantees, pledge collateral). In the case of an insolvency of a participant, the guarantee fund has the right to take over the position. From the beginning of 1999, real-time DVP (in line with TARGET operating hours) will be offered, which eliminates the risk of unwinding. Nevertheless, DBC will implement TRUST (real-time gross settlement) in stages, starting from early 1999 and finishing in 2001.
BOGS (Greece)	DVP model 3 system with multiple batch procedures.	In order to avoid unwinding due to a securities shortage, the SSS provides an automatic lending facility supplemented by a cancellation penalty.
CADE (Spain)	CADE is a DVP model 1 system with two final batches (one overnight batch with finality at the beginning of the day and one end-of-day batch).	It uses automatic securities lending in the event of a securities shortage and delayed settlement, with collateralised cash credit in the event of lack of cash. These measures are supplemented by “rejection of orders” procedures.
SCLV (Spain)	DVP model 2 system.	Settlement guarantee based on collateralisation procedures: each participant must make a (securities or cash) deposit corresponding to its pending settlement with daily updating. This collateral is used to ensure the settlement of the participant’s transactions but also works as a co-guarantee to ensure the other participants’ obligations.
Espaclear (Spain)	DVP model 2 system.	Loss-sharing agreement for cash failure. No securities lending service.
SCL Barcelona (Spain)	DVP model 2 system.	Settlement guarantee based on collateralisation procedures: each participant must make a (securities or cash) deposit corresponding to its pending settlement with daily updating. This collateral is used to ensure the settlement of the participant’s transactions but also works as a co-guarantee to ensure the other participants’ obligations. No securities lending service.

<b>SSS (country)</b>	<b>DVP model</b>	<b>Risk control measures</b>
SCL Valencia (Spain)	DVP model 2 system.	Settlement guarantee based on collateralisation procedures: each participant must make a (securities or cash) deposit corresponding to its pending settlement with daily updating. This collateral is used to ensure the settlement of the participant's transactions but also works as a co-guarantee to ensure the other participants' obligations. No securities lending service.
SCL Bilbao (Spain)	DVP model 2 system.	Settlement guarantee based on collateralisation procedures: each participant must make a (securities or cash) deposit corresponding to its pending settlement with daily updating. This collateral is used to ensure the settlement of the participant's transactions but also works as a co-guarantee to ensure the other participants' obligations. No securities lending service.
SICOVAM (France)	DVP model 1 system.	The Banque de France provides intraday repo in order to mitigate the need for cash balance and thus to help prevent settlement failures. An automatic lending facility (guaranteed by a banking pool) and a forward management of cash positions are planned for 1999.
CBISSO (Ireland)	DVP model 2 system.	Assured payments' instructions from the settlement banks are irrevocable but only final in central bank money at the end of the day. Unwinding procedures are possible but not in the case of ESCB credit operations, which are settled on a free-of-payment basis. Finality of settlement will be ensured via appropriate legislative change, including implementation of the finality directive. Currently there is no securities lending service, but such a service is being considered in the strategic review of the system, which is under way.
NTMA (Ireland)	DVP model 2 system.	Unwinding procedures are possible but not in case of ESCB credit operations, which are settled on a free-of-payment basis. Finality of settlement will be ensured through appropriate legislative change, including implementation of the settlement finality directive. No securities lending service.
LdT (Italy)	DVP model 3 system.	LdT accepts securities transfer instructions without an a priori check on the participants' securities accounts and thus potentially exceeding their balances. This risk is dealt with by means of the "assegnazione" procedure (the participant in a credit position on the same securities accepts postponing the delivery) supplemented by penalties (applied to the failing party if the delay exceeds three days for government securities and private bonds and five for other securities). In the case of insolvency, the settlement of securities traded on the stock exchange (shares, warrants and convertible bonds) is guaranteed by a fund fed by all SSS participants. For other securities, an unwinding procedure is activated and new balances are determined within 15-20 minutes. No securities lending service.
CAT (Italy)	CAT offers DVP model 1 facilities only for central bank operations on a manual basis. It offers free-of-payment deliveries on a real-time basis.	No securities lending service.
Monte Titoli (Italy)	Monte Titoli does not offer DVP facilities. It offers free deliveries on a real-time basis.	No securities lending service. The implementation of an automatic securities lending facility is planned for 1999.

<b>SSS (country)</b>	<b>DVP model</b>	<b>Risk control measures</b>
Cedel (Luxembourg)	DVP model 1 system (in commercial bank money).	In order to avoid any securities failure, Cedel manages securities lending procedures, where it acts as an intermediary between lenders and borrowers. In order to avoid any cash failure, Cedel grants collateralised credits with lending caps.
Necigef (Netherlands)	DVP model 1 system.	Cash failures are mitigated through a collateralised intraday credit facility offered by DNB acting as settlement bank. No securities lending service.
OeKB (Austria)	CVP model 2 based on gross settlement of securities; and DVP model 3 (for stock exchange trades) based on net settlement.	To avoid unwinding due to a securities shortage, WSB arranges loans acting as intermediary between market participants. In the case of stock exchange trades the risks are mitigated through a pool of cash or specific securities which has to be provided by each participant (mandatory collateralisation according to the "Arrangementsordnung").
Interbolsa (Portugal)	DVP model 3 system. DVP model 1 system for monetary policy operations.	In order to avoid unwinding due to a securities shortage, the SSS can generate a mandatory buy-in order (for stock exchange transactions only) to replace the securities not delivered (at the expense of the failed participant). Securities lending service will be available before January 1999.
Siteme (Portugal)	DVP model 1 system.	No securities lending service.
APK/RM System (Finland)	DVP model 1 system.	There are financial safeguards such as an insurance policy and a loss commitment from the shareholders of APK. No securities lending service. Securities lending facilities will be implemented in the first half of 1999.
APK/OM System (Finland)	DVP model 2 system.	APK guarantees net payments and is covered by full collateralisation from the participants. Moreover, there are financial safeguards such as an insurance policy and a shareholder loss commitment. No securities lending service. APK is planning to implement a securities lending service in 1998.
VPC (Sweden)	DVP model 1 system. DVP model 2 system.	In the case of default of a participant, the SSS uses an exceptional settlement called delayed settlement with the unwinding of the related transactions and re-opening of the system between one to two hours for additional instructions. To mitigate risks related to the procedure, securities lending arrangements among the participants are in place.
CGO (United Kingdom)	DVP model 1 system (in commercial bank money).	Securities are transferred with finality against an irrevocable assurance from the buyer's settlement bank, i.e. the bank is committed to settling the buyer's payment obligation at the end of the day. No automated securities lending service but active securities lending market and other procedures ("circles processing") to maximise chances of successful settlement.
CMO (United Kingdom)	Intraday finality of securities settlement.	No automatic securities lending service but active securities lending market and supporting functionality.
CREST (United Kingdom)	DVP model 1 system (in commercial bank money).	Securities are transferred with finality against an irrevocable assurance from the buyer's settlement bank, i.e. the bank is committed to settling the buyer's payment obligation at the end of the day. No automated securities lending service but active securities lending market and other procedures ("circles processing") to maximise chances of successful settlement.

**ANNEX 3: INTRADAY FINALITY IN EU SECURITIES SETTLEMENT SYSTEMS**

<b>SSS (COUNTRY)</b>	<b>FORM OF INTRADAY FINALITY</b>	<b>PLANNED FOLLOW-UP WORK</b>
NBB Clearing system (Belgium)	DVP model 1 system, with a multiple batch procedure.	
CIK (Belgium)	DVP model 1 system, with a multiple batch procedure.	As from October 1998, settlement will be on a real-time basis.
Euroclear (Belgium)	Pre-deposit of securities.	The real-time DVP system has been postponed until after the beginning of Stage Three (no precise date).
VP (Denmark)	DVP model 1 system based on real-time settlement.	
DBC (Germany)	DVP model 1 system based on real-time settlement, free delivery possible throughout the business day.	DBC plans to implement TRUST (True settlement) in stages starting in early 1999 and to be completed in 2001. As a first step, RTS processing against payment will be available between 07.00 and 18.00 from the beginning of 1999. A real-time gross settlement system to replace batch processing will follow.
BOGS (Greece)	DVP model 3 system with a multiple batch procedure.	Real-time DVP will be implemented by 2002.
CADE (Spain)	Pre-deposit of securities.	Real-time free of payment is planned for 15 January 1999 and real-time DVP as of 15 March 1999.
SCLV (Spain)	Pre-deposit of securities.	SCLV will offer free of payment and DVP in real-time as soon as the legislation is properly adapted (tentative 1999).
Espaclear (Spain)	Pre-deposit of securities.	ESPACLEAR will offer free of payment and DVP in real-time and will merge with SCLV as soon as the legislation is properly adapted (tentative 1999).
SCL Barcelona (Spain)	Pre-deposit of securities.	Real-time DVP in December 2000.
SCLV Valencia (Spain)	Pre-deposit of securities.	Real-time DVP in December 2000.
SCLV Bilbao (Spain)	Pre-deposit of securities.	Real-time DVP in December 2000.
SICOVAM (France)	DVP model 1 system based on real-time settlement.	
CBISSO (Ireland)	Free delivery on a real-time basis.	The strategic review of CBISSO will include an assessment of options for real-time settlement or a series of batch processes with intraday finality.
NTMA (Ireland)	Free delivery on a real-time basis.	Currently under review.
LdT (Italy)	No intraday finality is provided.	Plans for the implementation of intraday DVP facilities will be drawn up following the decisions that will be made regarding the final structure of the Italian settlement system.
CAT (Italy)	CAT offers real-time DVP facilities only for central bank operations on a manual basis. Free deliveries on a real-time basis.	Plans for the implementation of intraday DVP facilities will be drawn up following the decisions that will be made regarding the final structure of the Italian settlement system.
Monte Titoli (Italy)	Free deliveries on a real-time basis.	The implementation of an RTGS-DVP procedure is under development. The procedure will be ready for the second half of 1999.
Cedel (Luxembourg)	Pre-deposit of securities.	Intraday DVP system is planned before 2002.
Necigef (Netherlands)	DVP model 1 system on a real-time basis.	
OeKB (Austria)	Free deliveries on a real-time basis.	Intraday DVP in central bank money by the beginning of 1999 and on a real-time basis by the end of 2000.
Interbolsa (Portugal)	DVP model 1 system on real-time basis for monetary policy operations.	
Sitime (Portugal)	DVP model 1 system on real-time basis.	

APK/RM System (Finland)	DVP model 1 system on real-time basis.	
APK/OM System (Finland)	Pre-deposit of securities.	Intraday DVP by the end of 2001.
VPC (Sweden)	DVP model 1 system on a real-time basis.	
CGO (United Kingdom)	Free delivery on a real-time basis.	Plan for DVP model 1 system in central bank money will be drawn up following completion of recent review of priorities for development of UK systems.
CMO (United Kingdom)	Free delivery on a real-time basis.	Plan for DVP model 1 system in central bank money will be drawn up following completion of recent review of priorities for development of UK systems.
CREST (United Kingdom)	Free delivery on a real-time basis.	Plan for DVP model 1 system in central bank money will be drawn up following completion of recent review of priorities for development of UK systems.

**ANNEX 4: OPERATING HOURS OF EU SECURITIES SETTLEMENT SYSTEMS**

<b>SSS (country)</b>	<b>Operating hours</b>	<b>Fulfilment for intraday requirements</b>
NBB Clearing system (Belgium)	Transactions are currently settled through several batches taking place at 08.00 and on every hour between 10.00 and 15.00 (last DVP batch at 15.30). As from January 1999 the last DVP batch will be at 16.15 while additional batches on a free of payment basis are possible until 18.00.	Only on a free delivery basis after 15.30
CIK (Belgium)	Transactions are settled through several batches taking place at 06.00 and every hour between 08.00 and 12.00. As from October 1998, settlement will be on a real-time basis between 06.00 and 14.00. As from 1 January 1999 settlement will conform to TARGET operating hours (the exact time has yet to be decided).	Yes
Euroclear (Belgium)	Transactions are settled in three batches (for value S) on a real-time basis at 22.00-23.30 (S-1), 01.00-02.30 and 11.45-13.15 (for the daylight batch, instructions must be input before 11.00).	Only with pre-deposited securities
VP (Denmark)	Transactions can be settled on a real-time basis from 08.00 to 15.30 and until 18.00 on a free delivery basis. The net settlement processes take place at 18.00, 23.45, 06.00 and 10.30.	Only on a free delivery basis after 15.00
DBC (Germany)	Transactions are settled on a real-time basis between 07.30 and 14.45. The net settlement processes are final at 11.30 and 14.00. A free delivery procedure is available from 07.30 to 18.00.	Only on a free delivery basis after 14.45 but intend to offer intraday facilities with payment in central bank money on a real-time basis compliant with TARGET operating time at the start of Stage 3.
BOGS (Greece)	Transactions are finally settled at 14.00 and instructions must be input by 14.00 (13.30 on Fridays) for them to be processed with same value date.	Only with pre-deposited securities after 13.30
CADE (Spain)	The overnight batch is final at 07.00 (instructions must be input the previous day before 19.00) and the end-of-day batch is final at 16.30 (instructions must be input before 13.30). As from October 1998, a real-time procedure will be available from 16.30 to 18.00.	Only with pre-deposited securities from 07.00 to 16.30
SCLV (Spain)	The net settlement is final at 11.00. Instructions must be input at the latest before S-3 by 19.00.	Only with pre-deposited securities
Espaclear (Spain)	The net settlement is final at 11.00. Instructions must be input at the latest before S-1 by 15.30.	Only with pre-deposited securities
SCL Barcelona (Spain)	The net settlement is final at 11.00. Instructions must be input before 19.00. (S-1).	Only with pre-deposited securities
SCL Valencia (Spain)	The net settlement is final at 15.00. Instructions can be input until 22.00 (S-1).	Only with pre-deposited securities
SCL Bilbao (Spain)	The net settlement is final at 11.00. Instructions must be input on S-1.	Only with pre-deposited securities
SICOVAM (France)	Transactions can be entered and settled all day long from 08.00 to 18.15 (for monetary policy operations only).	Yes
CBISSO (Ireland)	Settlement is final at 16.00 GMT. Instructions to be input by 11.30. Free delivery facilities can be effected with finality at any time.	Only on a free delivery basis
NTMA (Ireland)	Settlement is final at 16.00 GMT. Instructions to be matched by 11.30. Free delivery facilities can be effected with finality at any time.	Only on a free delivery basis
LdT (Italy)	The net settlement is final at 13.00 and instructions must be input by 20.00 the previous day.	Not applicable
CAT (Italy)	Free deliveries are settled on a real-time basis from 07.00 to 18.00.	Only on a free delivery basis
Monte Titoli (Italy)	Free deliveries are settled on a real-time basis from 07.00 to 18.30.	Only on free delivery basis

SSS (country)	Operating hours	Fulfilment for intraday requirements
Cedel (Luxembourg)	Transactions are settled in two batches on a real-time basis from 20.00 (S-1) to 05.30, and from 12.30 to 16.00. Instructions must be input by 12.30 (starting time of daily batch) to be processed with same value date.	Only with pre-deposited securities
Necigef (Netherlands)	Transactions can be settled from 08.00 to 12.00 for DVP transactions and from 08.00 to 16.00 for free deliveries. As of 1.1.1999 transactions can be settled on a DVP real-time basis from 08.00 to 18.00.	On a free delivery basis between 12.00 and 16.00 and with pre-deposited securities after 16.00. Yes as of 1.1.1999
OeKB (Austria)	OTC net settlements are final at 11.00 and 15.00 for free deliveries (13.00 and 16.30 for DVP transfers). Instructions must be input by 13.30 (starting time of second batch) for them to be processed with same value date. Stock exchange trades are settled at T+3 at 12.00.	Only on a free delivery basis before 13.30 and with pre-deposited securities after 13.30.
Interbolsa (Portugal)	Stock exchange transactions are finally settled at T+4 at 09.30. Monetary policy operations will be settled on a real-time basis from 07.00 to 18.00.	Yes
Siteme (Portugal)	Transactions will be settled from 07.00 to 18.00.	Yes
APK/OM System (Finland)	The net settlement occurs at 11.30 and instructions must be input by 08.00 C.E.T. for them to be processed with same value date.	Only with pre-deposited securities
APK/RM System (Finland)	Transactions can be settled from 8.00 to 16.00 C.E.T. The RM system will fulfil TARGET operating hours as from 1 <sup>st</sup> January 1999 at the latest.	Yes, as of 1 January 1999
VPC (Sweden)	Transactions can be settled on a real-time basis from 08.00 to 18.00 C.E.T. Transfers settled via the net processing become final at 12.45 (instructions must be input not later than 18.00 on S-1 in the so called guarantee clearing, i.e. for shares, and not later than 10.30 on S for money market instruments).	Yes
CGO (United Kingdom)	Non-DBV transactions are settled from 09.30 to 15.45 C.E.T.	Only on a free delivery basis before 15.45 C.E.T. and with pre-deposited securities after 15.45 C.E.T.
CMO (United Kingdom)	Transactions are settled from 09.30 to 17.45 C.E.T.	Only on a free delivery basis before 17.45 C.E.T. and with pre-deposited securities after 17.45 C.E.T.
CREST (United Kingdom)	Non DBV transactions are settled from 06.30 to 14.30 C.E.T. with further free deliveries possible from 15.30 to 16.00 C.E.T.).	Only on a free delivery basis before 16.00 C.E.T. and with pre-deposited securities after 16.00 C.E.T.